

**FIBER FOR REINFORCING RUBBER, THE PRODUCTION THEREOF AND HOSE THEREFROM****Publication number:** JP2001146686**Publication date:** 2001-05-29**Inventor:** KANDA YASUMI; SHOJI HIROMITSU; TANIGUCHI MASAHIRO**Applicant:** TORAY INDUSTRIES**Classification:****- International:** *F16L11/08; C09J109/00; C09J161/06; C09J161/12; D02G3/48; D06M13/148; D06M13/152; D06M15/00; D06M15/41; D06M15/693; D06M101/00; D06M101/16; D06M101/30; D06M101/32; D06M101/34; F16L11/08; C09J109/00; C09J161/00; D02G3/48; D06M13/00; D06M15/00; D06M15/37; D06M15/693; (IPC1-7); D06M15/693; C09J109/00; C09J161/06; D02G3/48; D06M15/41; F16L11/08; D06M101/36***- european:****Application number:** JP19990322743 19991112**Priority number(s):** JP19990322743 19991112[Report a data error here](#)**Abstract of JP2001146686**

**PROBLEM TO BE SOLVED:** To provide a production process for rubber-reinforcing fiber that shows good adhesion to halogenated butyl rubber and causes reduced troubles in the hose production process. **SOLUTION:** Polyester fiber or aramide fiber is previously treated with a treatment agent including polyepoxy compound and then treated with an adhesion treatment agent including (A) initial condensate of resorcin and formaldehyde, (B) vinyl pyridine-styrene-butadiene terpolymer including 13-20 wt.% of vinyl pyridine, 25-45 wt.% of styrene, and 40-60 wt.% of butadiene, (C) p- chlorophenol-resorcin-formaldehyde cocondensate and finally heat-treated to produce the objective fiber for reinforcing rubber.

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## Partial Translation of JP2001-146686A

## [Claim 1]

A fiber for reinforcing rubber characterized by composing of polyester fiber or aramid fiber coated with a adhesive agent, wherein  
5 the adhesive agent includes:  
polyalcohol and/or polyepoxide,  
(A) initial condensation product of resorcinol-formaldehyde,  
(B) vinylpyridine-styrene-butadiene terpolymer latex of  
10 vinylpyridine: 13 to 20 weight %, styrene: 25 to 45 weight %, and butadiene: 40 to 60 weight %, and  
(C) parachlorophenol-resorcinol-formaldehyde condensation product.

## [0020]

15 The initial condensation product (A) of resorcinol-formaldehyde may be a resol-type obtained by reaction using alkali metal hydroxide such as sodium hydroxide and potassium hydroxide as catalyst or may be a novolac-type obtained by reaction using acidic catalyst such as oxalic acid and hydrochloric acid. Both types can be used in this invention. When high  
20 adhesiveness is required, the novolac-type of the initial condensation product of resorcinol-formaldehyde is preferably used.